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August 18, 1994

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554

Re: Ex Parte Presentation -- CC Docket No. 92-166

Dear Mr. Caton:

The undersigned counsel for TRW Inc. hereby files this Notice of Ex Parte Presentation pursuant to Section 1.1206 of the Commission's rules. The undersigned counsel met today with Scott Harris, Director, Office of International Communications, and Mary McManus, Legal Advisor to Commissioner Ness, with regard to the above-referenced proceeding. The topics discussed concern those issues raised by TRW in its earlier comments and reply comments in the above-referenced proceeding, particularly the issues discussed in the attached materials.

Respectfully submitted,



Norman P. Leventhal
Raul R. Rodriguez

NPL/vlp
cc: Scott Harris
Mary McManus

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OUTSTANDING BIG-LEO ISSUES

CC DKT. 92-166

- FOUR OF FIVE BIG-LEO APPLICANTS PROPOSE TO USE SPREAD SPECTRUM CDMA; ONLY ONE SYSTEM CANNOT SHARE AND HENCE DELAYS RESOLUTION.
- TRW SUPPORTS BASIC FCC SEGMENTATION PLAN BUT TWO CRITICAL ISSUES MUST BE DECIDED AND NOT DEFERRED.
- ALL APPLICANTS MUST BEAR THEIR EQUITABLE SHARE OF THE IMPAIRMENT TO US SYSTEMS CAUSED BY RUSSIAN GLONASS SYSTEM.

FCC PROPOSES TO GIVE TDMA SYSTEM 1/3 OF SPECTRUM; SO IT SHOULD ALSO BEAR 1/3 OF SPECTRUM IMPAIRMENT DUE TO GLONASS AND OPERATE ONLY FROM 1622.75-1626.5 MHz DURING TRANSITION.

- IN ORDER TO AVOID WHIPSAWING OF US SYSTEMS, ASSURE WORLD-WIDE COMPETITION, AND PROVIDE REALISTIC OPPORTUNITY FOR COORDINATION OF FOREIGN SYSTEMS, US LICENSED SYSTEMS MUST MAINTAIN SAME SPECTRUM ASSIGNMENTS GLOBALLY. *GLOBASS* RULE SHOULD BE ADOPTED.

BEFORE THE
Federal Communications Commission
WASHINGTON, D.C. 20554

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AUG 8 1994

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

In the Matter of)
)
Amendment of the Commission's Rules to)
Establish Rules and Policies Pertaining)
To a Mobile-Satellite Service in the)
1610-1626.5/2483.5-2500 MHz)
Frequency Bands)

CC Docket No. 92-166

To: The Commission

COMMENTS OF TRW INC.

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May 5, 1994

incumbent on the new entrant to show that its system (including any last minute design modifications and accounting for any launch anomalies) lives up to its coordination agreement.

- ii. **MSS Above 1 GHz System Licenses Should Specify That System Operations Anywhere Around The World Will Be Compatible With The Terms And Conditions Of The License Issued By The Commission.**

In recognition of the fact that MSS Above 1 GHz systems will be truly global in their operating scope, and that the sharing balance between CDMA and FDMA/TDMA systems is a delicate one, TRW calls upon the Commission to require that all MSS Above 1 GHz licenses in the 1610-1626.5 MHz and/or 2483.5-2500 MHz bands maintain globally the operating parameters that they are authorized to employ over the United States. In order to ensure that the U.S. systems have an opportunity to compete meaningfully in the global marketplace, they must be assured that the operating parameters in place in the United States are not abandoned once the satellites leave the area.

As the entities in control of their systems' operations, the licensees have the ability and responsibility to specify the technical conditions on which earth stations will access their satellites -- regardless of where those stations are located in the

world.^{126/} The Commission, of course, has the authority to impose conditions on U.S. space station authorizations that flow through to ultimate end users, wherever those users may be.^{127/} Such a limitation would also significantly ease the U.S. Government's burden as it works to coordinate the non-geostationary MSS systems internationally.

iii. Even If A Band Segmentation Scheme Is Adopted For The 1610-1626.5 MHz Band, The Commission Should Still Allow CDMA Systems To Share The Entire 2483.5-2500 MHz Band On A Full-Band Interference Sharing Basis.

In the NPRM, the Commission assumes that if CDMA systems are assigned to less than the full 16.5 megahertz of spectrum in the 1610-1626.5 MHz band, they will need a proportionately reduced assignment in the 2483.5-2500 MHz satellite-to-earth station band.^{128/} It states that any spectrum so freed up in the 2483.5-2500 MHz band could be assigned to CDMA licensees in specific segments.

^{126/} Such a provision would not intrude upon the sovereignty of any foreign nation, as each country would be within its rights to deny access or limit access of any particular system. It would simply preclude any system or systems from operating under conditions that would place it or them in violation of the terms and conditions of their authorization from the Commission.

^{127/} See International Separate Systems, 101 F.C.C.2d at 1177-78 (subsequent history omitted).

^{128/} See NPRM, 9 FCC Rcd at 1113-1114 (¶ 37):

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REPLY COMMENTS OF TRW INC.

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required to share the spectrum that is available to them on a full-band interference sharing basis. In this regard, Constellation must be ordered to amend its application to commit to such an approach, and Constellation's alternate suggestion that the Commission assign each of the five applicants a 3.3 megahertz segment of spectrum for their dedicated use (and require each applicant to redesign its system to conform to the assignment) must be rejected. See Constellation Comments at 22.^{82/}

The Commission must also adopt TRW's proposed requirement that all MSS Above 1 GHz licensees in the 1610-1626.5 MHz and/or 2483.5-2500 MHz bands maintain globally the operating parameters that they are authorized to employ over the United States. See TRW Comments at 80-81. TRW asserted that MSS Above 1 GHz systems must be assured that the frequency assignments and other

^{82/} Although TRW finds Motorola's call for exclusivity within the FDMA/TDMA band segment under the 11.35/5.15 plan (see Motorola Comments at 36-37) repugnant and generally contrary to Commission policy, it does not object so long as the exclusivity is granted in conjunction with the Commission's adoption of a sharing plan that is fair and equitable to all five applicants, and is without prejudice to CDMA applicants' rights to seek that segment should Motorola fail to meet its milestones. However, TRW believes that it would be premature for the Commission to determine that the FDMA/TDMA segment should not be further segmented, and it opposes the notion that any portion of the band should be "reserved" for Motorola except to the extent contemplated in the 11.35/5.15 plan. See id. at 36-37. If future entry is to be allowed, the burdens of such entry should be borne, as appropriate, by all systems. TRW also notes, irrespective of Motorola's silly argument concerning singular and plural forms of the word "system," that the Commission has never "acknowledge[d]" Motorola's assertion that it could not viably share its portion of the band with any other FDMA/TDMA system." Id. at 37 (footnote and citation omitted). Again, the Commission merely quoted Motorola's own unsubstantiated claim on the subject. See NPRM, 9 FCC Rcd at 1110-11 (¶ 31) (citation omitted).

operating parameters that are put in place in the United States will not be abandoned when the satellites are not over the United States. It noted that the Commission has authority to impose such a condition, and that this necessary limitation will ease international coordination burdens for the U.S. systems. *Id.*^{90/}

Without such a condition, chaos will reign supreme as U.S. applicants seek to foreclose their competitors from gaining access to particular markets by attempting to secure access to the other's U.S.-allocated spectrum on a country-by-country basis. The temptation for foreign administrations to engage in behavior

^{90/} As TRW explained in its Comments, the Commission has authority to impose conditions on U.S. space station licenses that flow through to ultimate end users, irrespective of those users' locations. *See* TRW Comments at 81 & n.127 (citing Establishment of Satellite Systems Providing International Communications, 101 F.C.C.2d 1046, 1177-78 (1985) ("International Separate Systems")). In International Separate Systems, the Commission stated that it would condition the licenses of all separate system space and associated ground stations on the absolute prohibition of interconnection of the systems with the public switched telephone network, and it did not matter whether the conditioned licenses were owned or operated by the separate satellite system operator, its customer, or an ultimate user. 101 F.C.C.2d at 1111. The Commission stated that for purposes of implementing the "no-interconnect" restriction, it obtained jurisdiction over enhanced service providers and end-users that seek to interconnect a PBX or similar equipment with their separate system facilities "through the full panoply of authority under Title III of the Communications Act of 1934 to license and condition the use of radio facilities pursuant to the residual authority under Title I of the Act to ensure full effectuation of our statutory mandate." *Id.* at 1112 n.89. Other instances where the Commission takes actions that impact directly on foreign entities and administrations can be found in the Title II context. *See, e.g.*, 47 C.F.R. § 63.14 (Commission prohibits U.S. international common carriers affiliated with foreign carriers from agreeing to accept special concessions directly or indirectly from any foreign carrier or administration with respect to traffic or revenue flows); Implementation and Scope of the Uniform Settlements Policy for Parallel International Communications Routes, 59 R.R.2d 982 (1986) (Commission requires carrier agreements with foreign carriers/administrations to specify uniform terms, rates, and conditions) (subsequent history omitted).

tantamount to "whipsawing" of the U.S. licensees will be virtually irresistible. If any country is able to force changes or concessions to the frequency plans of one or more systems in exchange for landing rights, and thereby favor other systems, the integrity of the Commission's plan for a global satellite service will be destroyed, and the very viability of the service will be jeopardized. The Commission must remove any opportunity for either system operators or foreign administrations to engage in such chicanery; the condition sought by TRW is the only way to achieve this result.

Of even greater concern, however, is the ability of the United States Government successfully to coordinate internationally all MSS Above 1 GHz systems. The United States has initiated international coordination procedures pursuant to Resolution 46 of the ITU Radio Regulations for all such systems. Thus, all MSS Above 1 GHz systems have been advanced published and their Appendix 4 information has appeared in the ITU Circular, albeit in a generic format. Unless the Commission adopts the approach suggested by TRW, how can the United States successfully coordinate the present systems? As the Appendix 3 information is developed and shared with countries which have already indicated a need to coordinate, the United States must be able to explain the planned use of the spectrum. Can this be accomplished without a globally uniform spectrum sharing plan?

By way of example, suppose hypothetically an international coordination of the five proposed MSS Above 1 GHz systems among the United States (the

sponsoring administration) and five other countries. Assuming a spectrum sharing plan where the FDMA/TDMA system uses "X" bandwidth of the MSS/RDSS spectrum and the remaining systems implement CDMA technology and share "Y" bandwidth of the MSS/RDSS spectrum. How can the United States accomplish a successful coordination unless the parameters of "X" and "Y" are known and are the same in all countries? A shifting "X" and "Y" bandwidth, from one country to another, could create havoc if one country were to permit one CDMA system use of greater bandwidth than a neighboring country. Under this latter scenario, the FDMA/TDMA system would be greatly affected and would possibly result in a substantial reduction of its capacity in the neighboring country.

If this example were replicated worldwide, TRW anticipates difficult coordinations and possible unnecessary reductions in system capacity. Without question, MSS Above 1 GHz coordinations can be best accomplished if the spectrum sharing parameters remain fairly static and are not a shifting target from one country to another.

A decision to grant TRW's request for an operating limitation means that the Commission must reject Motorola's potentially disruptive suggestion that "the FDMA/TDMA licensee should be issued a construction permit over the entire 1616-1626.5 MHz band to give it flexibility to operate over a larger band in the event it is allowed to do so in the United States or elsewhere[.]" See Motorola Comments at 41

n.29. It also means that the Commission should adopt Ellipsat's suggestion that the Commission revise Proposed Section 25.202(a)(4) to clarify that the frequencies available or potentially available for secondary satellite-to-user links are limited to the 1621.35-1626.5 MHz band (as opposed to the 1613.8-1626.5 MHz band as indicated in the NPRM). See Ellipsat Comments at 28.

5. The Commission Should Make Provision For The Expeditious Initiation Of Domestic And International Coordination Of The MSS Above 1 GHz Systems.

TRW agrees with Ellipsat, Constellation, and LQP that coordination of MSS Above 1 GHz systems should commence shortly after the adoption of the Report and Order in this proceeding. The criteria recommended in the Final Report of the Majority of the Active Participants of Informal Working Group 1 to the MSS Above 1 GHz Negotiated Rulemaking Committee provide a good starting point in this regard, and should be adopted.^{21/} Successful coordination of MSS Above 1 GHz systems on an ongoing basis inevitably will require the establishment of a standing coordination committee -- to be comprised exclusively of entities holding MSS Above 1 GHz authorizations -- of the type described by Ellipsat. See Ellipsat Comments at

^{21/} See, e.g., Report of the MSS Above 1 GHz Negotiated Rulemaking Committee, April 6, 1993, Attachment 1 to Annex 1 at 2-1 to 2-3 and Annex 2.1 thereto; LQP Comments at 60-62. TRW believes that once systems are authorized, the Commission should immediately thereafter commence the international coordination process for the MSS Above 1 GHz systems on a parallel track.